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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,632	07/02/2004	Ville Ruutu	59643.00408	3038

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EXAMINER

KARIKARI, KWASI

ART UNIT	PAPER NUMBER
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2617

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/500,632

Applicant(s)

RUUTU ET AL.

Examiner

Kwasi Karikari

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,4-13,15-19,21-27,30,31,33 and 34 is/are pending in the application.
- 4a) Of the above claim(s) 1, 3,14, 20, 28, 29 and 32 canceled is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 2,4-13,15-19,21-27,30,31,33 and 34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/25/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617

Response to Arguments

2. Applicant's arguments with respect to claims 2, 4-13, 15-19, 21-27, 30, 31, 33 and 34 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

a. Claims 2, 4-13, 15-19, 21-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 15, 26 and 27, the applicant recites the limitations "the first and second transmitter unit", however, there are insufficient prior antecedent basis for these limitations in the claims. For examination purposes, the examiner will treat the rejected claimed limitations in light of a broader understanding from applicant's specification. Appropriate corrections are required.

b. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

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regards as the invention. The Applicant uses claimed limitations: "plurality of location is three locations". These limitations are not clearly presented in the Specification, thus, hampering one of ordinary skill in the art to clearly interpret the Applicant's claimed language. Appropriate corrections are required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 34 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language "the computer program" raises a question as to whether claim 34 is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101.

The Applicant is advised to use one of the following acceptable languages in computer-processing related claims such as;

- a. "A computer readable medium" encoded with____("a computer program", "software", "computer executable instructions" or "instructions capable of being executed by a computer") OR
- b. "A computer readable medium"____("storing a", "embodied with a", "encoded with a", "having a stored", or "having an encoded") "computer program".

Appropriate correction(s) are required.

Claim Objections

5. Claims 2, 4-13, 16-19 and 21-25 are objected to because of the following informalities: Applicant uses "A telecommunications system" in claims 2, 4-13, 16-19 and 21-25. The Examiner suggests using "The telecommunications system " as making reference to the previously cited claimed limitations "A telecommunications system" in the independent claim 15. Appropriate corrections are required.

6. Claims 1, 3, 14, 20, 28, 29 and 32 have been canceled.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4-13, 15-19, 21-27, 30, 31, 33 and 34 are rejected under U.S.C. 103(a) as being unpatentable over Sanderford, Jr. et al., (U.S 4,799,062) (hereinafter Sanderford) in view of Riley et al., (U.S. 20030125046 A1), (hereinafter Riley)

Regarding claims 15, 30, 31 and 34, Sanderford discloses a telecommunications system/ method and program(see Fig. 5) comprising:

a first base station unit (= transceiver 108) situated at a first, known location;

a second base station unit (= unknown position transmitter 106) situated at a second, unknown location; a station (repeater 110) arranged to receive signals at a third, known location from the first and second transmitter units; and receive signals at a fourth known location from the first and second base stations, wherein the said signal received by at the third and fourth locations are usable to ascertain the location of the second base station (= repeaters 110 at different locations uses the received time of arrival of signals to compute for the phase difference between signals and relays the transmissions from items 106,108 to the monitoring station 115; and transmission is use to calculate the location of unknown transmitter 106, see col. 3, line 23- col. 4, line 12; col. 5, lines 7-62 and Fig. 2; whereby the geographic locations of repeaters 110 are being associated with the "third and fourth location known locations"). Sanderford, however fails to mention that the station (repeater 110) is mobile.

Riley, however teaches a communication between mobile stations and a base station for determining the **location parameters** of the base station (see Pars. 0010-13; whereby the mobile stations is being associated with the station (repeater 110) at different locations).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests

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(Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 2, as recited in claim 15, Sanderford further discloses a telecommunications system, wherein the signals are indicative of “**the time taken for the signals to arrive at the third and fourth locations**” from the first and second base stations (= relative time of arrival of radio wave received at repeaters, see col. 3, lines 35-68 and col. 5, lines 15-54).

Regarding claim 4, as recited in claim 15, Sanderford further discloses a telecommunications system, wherein the station (repeater 110) at plurality of locations including said third and fourth locations and is and are both-arranged to receive a pair of signals when in each of the plurality of locations, the said pair of signals comprising a signal from the first base station and a signal from the second base station (= relative time of arrival of radio wave received at repeaters, see col. 3, lines 35-68 and col. 5, lines 15-54), but fails to mention that **station can move** and receive signals at different locations.

Riley, however teaches a communication between mobile stations and a base station for determining the **location parameters** of the base station (see Pars. 0010-13; whereby the mobile station is being associated with the station (repeater 110) at different locations).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 5, as recited in claim 4, Sanderford further discloses a telecommunications system, wherein two of said pairs of signals received by the station are together useable to calculate a range of possible locations of the second base station (monitoring station 115 uses time of arrival of waves to determine the unknown-position of transmitter 106, see col. 3, lines 35-68).

Regarding claim 6, as recited in claim 5, Sanderford further discloses a telecommunications system, wherein the range of possible locations is in the form of a hyperbola in the X-Y plane in which the second base station is located, the said hyperbola running through substantially the location of the second base station (= performing hyperbolic lines of position calculation to determine the location of the unknown transmitter 106, see col. 5, line 48- col. 6, line 5).

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Regarding claim 7, as recited in claim 5, Sanderford further discloses a telecommunications system, wherein in each of the plurality of locations the mobile station receives pairs of signals which differ from those pairs of signals received when the mobile station is in others of the plurality of locations and the said different pairs of signals are together usable to calculate different ranges of possible locations of the second base station (col. 5, lines 15-54).

Regarding claim 8, as recited in claim 7, Sanderford further discloses a telecommunications system, wherein the different ranges of possible locations substantially coincide at a single common location that is substantially the location of the second base station see col. 5, line 48- col. 6, line 10).

Regarding claim 9, as recited in claim 4, Sanderford further discloses a telecommunications system, wherein in any given location of the mobile station, the pair of signals received by the mobile station is the same pair of signals that is received by the mobile station at another location.

Regarding claim 10, as the combination of Sanderford and Riley is made of in claim 4, Riley teaches a telecommunications system, wherein in any given location of the mobile station, the pair of signals received by the mobile station is a different pair of signals from the pair of signals received by the mobile station at another location (see Par. 0081).

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Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 11, as the combination of Sanderford and Riley is made of in claim 4, Riley teaches a telecommunications system, wherein the plurality of locations is three locations (see Par. 0081).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 12, as the combination of Sanderford and Riley is made of in claim 15, Riley teaches a telecommunications system, wherein the signals received by the

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mobile station are received **"in response to signals sent"** to the first and second base stations **"by the mobile station"** (= mobile place a call, see Pars. 0076-77).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 13, as the combination of Sanderford and Riley is made of in claim 2, Riley teaches a telecommunications system, wherein the said signals are further indicative of their quality or accuracy (see Pars. 0014-15 and 0081).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

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Regarding claim 16, as the combination of Sanderford and Riley is made of in claim 15, Riley teaches a telecommunications system, wherein the mobile station is arranged to act as a first receiver during a first period of time and as a second receiver during a second separate period of time (see Pars. 0014-15 and 0081).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 17, as the combination of Sanderford and Riley is made of in claim 15, Riley teaches a telecommunications system, wherein the mobile station is a mobile telephone (see Par. 0076).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 18, as the combination of Sanderford and Riley is made of in claim 17, Riley teaches a telecommunications system, wherein the said mobile telephone supports Enhanced Observed Time Difference (E-OTD) location method and Global Positioning System (GPS) location method, or Observed Time Difference Of Arrival (OTDOA) location method and Global Positioning System (GPS) location method (see Par. 0026).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 19, as the combination of Sanderford and Riley is made of in claim 15, Riley teaches a telecommunications system, wherein the first and second base stations are a-cellular base stations (base station with unknown position and other base stations, see Pars. 0076-77).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests

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(Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 21, as recited in claim 15, Sanderford further discloses a telecommunications system, wherein the second base station is in a fixed location (coarse fix unknown of transmitter 106 is computed, see col. 5, lines 48-62).

Regarding claim 22, as recited in claim 15, Sanderford further discloses a telecommunications system, further comprising a calculation unit (= monitoring station 115) arranged to use the signals received by the mobile station or any values derived from the said signals to ascertain the location of the second base station (central monitoring station 115 compute for the location of transmitter 106, see col. 5, lines 48-62).

Regarding claim 23, as the combination of Sanderford and Riley is made of in claim 22, Riley teaches a telecommunications system, the calculation unit is arranged to take account of the indication of quality or accuracy when using the signals received by the mobile station (see Pars. 0014-15 and 0081).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests (Riley; Par.

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0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Regarding claim 24, Sanderford discloses a telecommunications system as recited in claim 22, located within a telecommunications network, wherein the calculation unit is a network management unit (central monitoring station 115 compute for the location of transmitter 106, see col. 5, lines 48-62).

Regarding claim 25, Sanderford discloses a telecommunications system according to claim 22, located within a telecommunications network, wherein the calculation unit is a Serving Mobile Location Centre (central monitoring station 115 compute for the location of transmitter 106, see col. 5, lines 48-62).

Regarding claims 26, 27 and 33, Sanderford discloses a calculation unit (monitoring station 115) for use in a telecommunications system (see Fig. 5) comprising:

a first base station (= transceiver 108) situated at a first, known location;

a second base station (= unknown position transmitter 106) situated at a second, unknown location;

a station (repeater 110) arranged to receive signals at a third, known location
:from the first and second transmitter unit: and to receive signals at a fourth known
location from the first and second base stations, wherein the signals received at the
third and fourth locations are usable to ascertain the location of the second base station

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(= repeaters 110 at different locations uses the received time of arrival of signals to compute for the phase difference between signals and relays the transmissions from items 106, 108 to the monitoring station 115; and transmission is used to calculate the location of unknown transmitter 106, see col. 3, line 23- col. 4, line 12; col. 5, lines 7-62 and Fig. 2; whereby the geographic locations of repeaters 110 are being associated with the "third and fourth location known locations"); and a calculation unit (monitoring station 115) arranged to use the signals received at the third and fourth locations or any values derived from the said signals to ascertain the location of the second base station (monitoring station 115 uses time of arrival of waves to determine the unknown- position of transmitter 106, see col. 3, lines 35-68); but fails to teach that station (repeater 110) is mobile and wherein the calculation unit is arranged to verify the accuracy of the ascertained location of the second base station by comparing it with location information of the second base station obtained from other sources.

Riley, however teaches a communication between mobile stations and a base station for determining the **location parameters** of the base station; the correction of erroneous base station location information with a degree of certainty (see Pars. 0010-14 and 0076-82; whereby the mobile stations are being associated with the station (repeater 110) at different locations).

Sanderford and Riley are analogous art because they disclose concepts and practices regarding location determination information in a communication system. At the time of the invention it would have been obvious to combine Riley into Sanderford. The motivation for said combination would have been, as Riley suggests

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(Riley; Par. 0014), to automatically correct erroneous base station location information with a degree of certainty and automatically maintain and improve the base station information in a database.

Conclusion

8. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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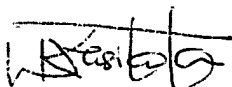
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kwasi Karikari whose telephone number is

571-272-8566. The examiner can normally be reached on M-F (8 am - 4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8566.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kwasi Karikari
Patent Examiner.
04/13/2007


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER